

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1 1. (previously presented) A method for improved inter-domain routing
2 convergence, comprising:

3 transmitting reason information associated with a route update or withdraw,
4 wherein the reason information comprises a reason for the route update or withdraw.

1 2. (original) The method of claim 1, wherein said reason information is
2 transmitted along with said route update or withdraw.

1 3. (original) The method of claim 2, wherein said reason information is
2 encoded as a triplet within a route update or withdraw message.

1 4. (original) The method of claim 3, wherein said triplet comprises:
2 a type code identifying the reason for the update or withdraw;
3 an indication of a node pair associated with the update or withdraw; and
4 an updated cost of a link between the node pair associated with the update or
5 withdraw.

1 5. (original) The method of claim 1, wherein said reason information
2 comprises reasons selected from the group consisting of a loss of peering between nodes
3 and a change in a cost of a link between nodes.

1 6. (currently amended) The method of claim 1, wherein a node receiving said
2 reason information uses said reason information to determine which of its candidate
3 routes are also affected by ~~substantially~~ the same event that triggered the initial route
4 update or withdraw and which of its candidate routes are not affected.

1 7. (original) The method of claim 6, wherein a candidate route is considered
2 as a transient route if said receiving node determines from said reason information that
3 said candidate route is to be updated or withdrawn.

1 8. (original) The method of claim 7, wherein said receiving node avoids
2 advertising a candidate route considered as a transient route as a preferred route to its
3 neighbors.

1 9. (original) The method of claim 7, wherein a route previously considered as
2 transient is considered as stable if the route is not updated within a predetermined time
3 period.

1 10. (original) The method of claim 1, further comprising transmitting version
2 information for the route update or withdraw.

1 11. (original) The method of claim 10, wherein said version information
2 comprises a version of the update or withdraw for each node pair and the change in node
3 pairs from a route previously advertised.

1 12. (original) The method of claim 10, wherein a node receiving said version
2 information uses said version information to determine the stability of its candidate routes.

1 13. (original) The method of claim 12, wherein a candidate route is considered
2 as a transient route if a reason's version is greater than the version of a corresponding
3 node pair in a path of the candidate route being considered.

1 14. (original) The method of claim 13, wherein said receiving node avoids
2 advertising a candidate route considered as a transient route as a preferred route to its
3 neighbors.

1 15. (previously presented) An apparatus for improved inter-domain routing
2 convergence, comprising:

3 means for identifying reason information associated with a route update or
4 withdraw, wherein the reason information comprises a reason for the route update or
5 withdraw; and

6 means for transmitting the reason information to neighboring apparatuses.

1 16. (currently amended) The apparatus of claim 15, further comprising:

2 means for receiving reason information associated with a received update or
3 withdraw; and

4 means for using said received reason information to determine which of its
5 candidate routes are also affected by ~~substantially~~ the same event that triggered an initial
6 route update or withdraw and which of its candidate routes are not affected.

1 17. (original) The apparatus of claim 16, wherein a candidate route is
2 considered as a transient route if said apparatus determines from said received reason
3 information that said candidate route is to be updated or withdrawn.

1 18. (original) The apparatus of claim 17, wherein said apparatus avoids
2 advertising a candidate route considered as a transient route as a preferred route to its
3 neighbors.

1 19. (previously presented) The apparatus of claim 15, further comprising:

2 means for transmitting version information for the route update or withdraw.

1 20. (previously presented) The apparatus of claim 19, further comprising:

2 means for receiving version information with an update or withdraw; and

3 means for using said received version information to determine the stability of its
4 candidate routes.

1 21. (original) The apparatus of claim 20, wherein a candidate route is
2 considered as a transient route if said apparatus determines from said received version
3 information that a reason's version is greater than the version of a corresponding node
4 pair in a path of the candidate route being considered.

1 22. (original) The apparatus of claim 21, wherein said apparatus avoids
2 advertising a candidate route considered as a transient route as a preferred route to its
3 neighbors.

1 23. (currently amended) A communications network having improved inter-
2 domain routing convergence, comprising:
3 a plurality of network devices, each of said network devices comprising
4 a processor and a memory, wherein said network devices perform the steps of:
5 transmitting reason information associated with a route update or
6 withdraw to neighboring devices, wherein the reason information comprises a
7 reason for the route update or withdraw;
8 receiving reason information associated with a received update or
9 withdraw; and
10 using said received reason information to determine which of its candidate
11 routes are also affected by ~~substantially~~ the same event that triggered an initial
12 route update or withdraw and which of its candidate routes are not affected.

1 24. (original) The communications network of claim 23, wherein a candidate
2 route is considered as a transient route if a network device determines from said received
3 reason information that said candidate route is to be updated or withdrawn.

1 25. (original) The communications network of claim 24, wherein said network
2 devices avoid advertising a candidate route considered as a transient route as a preferred
3 route to its neighbors.

1 26. (previously presented) A computer-readable medium for storing a set of
2 instructions, wherein when said set of instructions is executed by a processor perform a
3 method comprising:

4 transmitting reason information associated with a route update or withdraw,
5 wherein the reason information comprises a reason for the route update or withdraw.

1 27. (currently amended) The computer-readable medium of claim 26, wherein
2 said method further comprises:

3 receiving reason information associated with a received update or withdraw; and
4 using said received reason information to determine which of its candidate routes
5 are also affected by ~~substantially~~ the same event that triggered the initial route update or
6 withdraw and which of its candidate routes are not affected.

1 28. (original) The computer-readable medium of claim 27, wherein a
2 candidate route is considered as a transient route if it is determined from said received
3 reason information that said candidate route is to be updated or withdrawn.

1 29. (original) The computer-readable medium of claim 28, wherein a
2 candidate route considered as a transient route is avoided being advertised as a preferred
3 route.